International Conference

E-Mobility: Challenges for Technology and Urban Infrastructure Development

27th - 29th of September 2016
HafenCity University Hamburg

HCU Working Group: Environmentally Sound Urban and Infrastructure Planning
project: Sino-German Electromobility Research (SINGER) 中德电动汽车研究
registration: **e-mobility@hcu-hamburg.de** | conference details: **www.hcu-hamburg.de/e-mobility**

Photo: P. Plum

hy SOLUTIONS Innovative Antriebe für Hamburg
HCU HafenCity Universität Hamburg
Hochschule für Angewandte Wissenschaften Hamburg Hamburg University of Applied Sciences
UH Universität Hamburg DER FORSCHUNG | DER LEHRE | DER BILDUNG
Federal Ministry of Transport and Digital Infrastructure
supported by:
NOW National Organisation Hydrogen and Fuel Cell Technology
Modellregionen Elektromobilität
HH2 WASSERSTOFF-GESELLSCHAFT HAMBURG E.V.

International Conference

E-Mobility: Challenges for Technology and Urban Infrastructure Development

Program draft for participants (date 2016/09/20)

Conference Language: 1st day: Chinese-German (with simultaneous interpreters); 2nd day: Chinese-English (with simultaneous interpreters); 3rd (excursion-)day: English (Chinese supported).
This conference is part of the Sino-German Electromobility Research (SINGER) project.

Overview

- Comparison of e-mobility development in China, Germany and leading european cities with regard to urban infrastructure and technology developments

Creation of general framework conditions:

- Outline of different policies and instruments for e-mobility promotion
- Illustration of technology challenges in the field of battery development
- Evaluation of international best practises on urban development

Expected Outcomes

Electric mobility provides a strategic technological solution to the development of environmentally sustainable transport. Three demonstration regions for New Energy Vehicles (= e-mobility) in China funded by the Chinese Government (Ministry of Science and Technology by the People's Republic of China, MOST) as well as in Germany (funded by the German Federal Ministry of Transport and digital Infrastructure, BMVI) cooperate and compare experiences between the regions and cities of Shenzhen and Hamburg, Dalian and Rhein-Ruhr as well as Wuhan and Bremen-Oldenburg.

This emerging movement relies on the combination of public personal mobility services, such as carsharing and a shift from fossil-based traffic towards electric vehicles. The aim of electric mobility is to not only change how people drive in the current system but also reduce traffic and start the transition towards a city of short distances.

Within the international cooperation, Hamburg invites the Chinese partners and experts from other European cities to introduce their concepts and lessons learnt on implementing new energy vehicles in their regions and their specific policy framework. *How can electro mobility contribute to sustainable urban development? Which instruments for promoting e-mobility are successful? And what are the challenges for future technological development?* Using the example of these model regions and other international best practices, such questions will be discussed at HafenCity University's International Conference.

Day before conference (optional)

Monday, 26th of September (Time tbc):

- **HafenCity sightseeing tour / Stromnetz Infotainer**
  Venue: San-Francisco-Straße, 20457 Hamburg

International Conference

E-Mobility: Challenges for Technology and Urban Infrastructure Development

Part One - Tuesday, 27th of September 2016 (Language: Chinese-German)

hySOLUTIONS Innovative Antriebe für Hamburg | HCU HafenCity Universität Hamburg | Hochschule für Angewandte Wissenschaften Hamburg, Hamburg University of Applied Sciences | Universität Hamburg, Der Forschung | Der Lehre | Der Bildung

Federal Ministry of Transport and Digital Infrastructure

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Module 0: Introductions, policies and experiences

09:00	**(0.1)**	**Welcome address: HafenCity University and Hamburg City**
	►	Dr.-Ing. Pelka, Walter (President of HafenCity University Hamburg)
	►	Fegebank, Katharina (Deputy Mayor of the Free and Hanseatic City of Hamburg and Senator of the Department of Science, Research and Equalisation)
09:20	**(0.2)**	**Welcome address: China and Germany**
	►	CHEN Jiachang (Deputy Director Division International Cooperation, Ministry of Science and Technology of the People's Republic of China)
	►	Worringen, Birgitta (Deputy Director-General, Department Policy Issues, German Federal Ministry of Transport and Digital Infrastructure)
09:50	**(0.3)**	**Introduction and programme overview**
	►	Moderation: Prof. Dr. Dickhaut, Wolfgang (HafenCity University Hamburg)

Module 1: Sino-German Cooperation E-Mobility

10:00	**(1.1)**	**Sino-German Cooperation E-Mobility in Germany**
	►	Dr. Butsch, Hanno (National Organisation Hydrogen and Fuel Cell Technology, NOW GmbH)
10:30	**(1.2)**	**Sino-German Cooperation E-Mobility in China**
	►	WANG Cheng (China Automotive Technology and Research Center, CATARC, Deputy Director Beijing Operations)
11:00		**Coffee and tea break**
11:30	**(1.3)**	**Policy overview for e-mobility promotion in Hamburg**
	►	Richter, Andreas (Ministry of Economy, Transport and Innovation Free and Hanseatic City of Hamburg, Head of Division Innovation, Technology, Cluster)
12:00	**(1.4)**	**The progress report of the demonstration and promotion of new energy vehicles in Hamburg & Shenzhen**
	►	LU Xiangzhen (The Development and Reform Commission of Shenzhen Municipality, Director)
12:30		**Lunch break**

Module 2: Best practices from China and Germany

13:30	**(2.1)**	**Findings from Project SINGER: Challenges for Technology- and Urban Infrastructure Development in Hamburg and Shenzhen**
	►	Prof. Dr. Fröba, Michael (University Hamburg) *(15 min)*
	►	Roscher, Valentin (University of Applied Sciences Hamburg) *(15 min)*
	►	Lauer, Johannes (HafenCity University Hamburg) *(15 min)*
	(2.2a)	**Insights into China's and Germany's NEV demonstration regions**
14:15	►	**Shenzhen: Optimization of the charging station location for electric buses**, Dr. ZHANG Kai (Associate Professor, Division of Logistics and Transportation, Tsinghua University, Graduate School at Shenzhen)
14:40	►	**Hamburg: „Finding the right location",** Scheler, Christian (ARGUS - city and traffic planning)
15:00		**Coffee and tea break**
	(2.2b)	**Insights into China's and Germany's NEV demonstration regions**
15:30	►	**Introduction to the promotion of new energy vehicles in Dalian,** MA Chunyan (Dalian City Energy Conversation Technology Service Center, Section Chief)
15:50	►	**Rhein-Ruhr: Overview Model Region E-Mobility RHINE-RUHR** Dr. Garche, Stefan (EnergieAgentur.NRW)
16:10	►	**Wuhan:** Mr. GUO Liang (Wuhan EV demonstration Co., Ltd.)
16:30	**(2.3)**	**Panel discussion and questions with international experts**
	►	Moderation: Klingenberg, Heinrich (Managing Director, hySOLUTIONS GmbH)
	►	**Shenzhen:** LU Xiangzhen (SDRC)
	►	**Dalian:** MA Chunyan (Dalian City Energy Conversation Technology Service Center) / Prof. Dr. ZHOU (Dalian University of Technology)
	►	**Wuhan:** GUO Liang (Wuhan EV demonstration Co., Ltd.)
	►	**Shanghai:** XU Wenxia (Tongji University Shanghai) TBC
	►	**Hamburg:** Lindlahr, Peter (hySOLUTIONS GmbH)
	►	**Bremen-Oldenburg:** Dr. Rausch, Gerald (FRAUNHOFER IFAM)
	►	**Rhein-Ruhr:** Dr. Köster, Frank (EnergieAgentur.NRW)
	►	***Poster presentations from Bremen-Oldenburg, Rhein-Ruhr, Hamburg and specific e-mobility projects***
18:00		**Evening event: Dinner and get-together at HCU-Café**

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Part Two - Wednesday, 28th of September 2016 (Language: English-Chinese)

supported by:

Module 3a: International experience in urban infrastructure

09:00	**(3.1)**	**Smart e-mobility solutions for residential areas in Hamburg - e-Quartier Hamburg - experiences**
	►	Kulus, Daniel and Dr. Prill, Thomas (HafenCity University Hamburg)
09:30	**(3.2)**	**Explaining success and failure in Sino-European collaboration: Drawling lessons from Shenzhen International Low Carbon City**
	►	Prof. Dr. de Jong, W. Martin (TU Delft)
10:00	**(3.3)**	**E-Mobility at Metropolitan Region Amsterdam - Electric (MRA-E)**
	►	Linnenkamp, Maarten (Metropolitan Region Amsterdam – Electric (MRA-E), Project Manager)
10:30		**Coffee and tea break**
11:00	**(3.4)**	**Copenhagen's road to carbon neutral transport**
	►	Isbrand, Kasper Brenøe (City of Copenhagen, Technical and Environmental Department)
11:30	**(3.5)**	**Workshop 3a: International experience from Hamburg, Shenzhen, Amsterdam and Copenhagen**
	►	Moderation: Prof. Dr.-Ing. Dickhaut, Wolfgang (HafenCity University Hamburg)
	►	Group discussion , evaluation and joint development of suitable instruments for local governments and stakeholders
12:30		**Lunch break**

Module 3b: Urban infrastructure challenges at the project level

13:30	**(3.6)**	**E-Mobility and Urban Development in Hamburg and Shenzhen**
	►	Lauer, Johannes (HafenCity University Hamburg)
13:55	**(3.7)**	**The Qianhai Transportation Hub Urban Development Project**
	►	Pomränke, Nicolas (Associate Partner, GMP - von Gerkan, Marg and Partners Architects)
14:20	**(3.8)**	**Influence of EVs and Smart Transportation**
	►	Dr. LI Zhiheng (Tsinghua University, Graduate School at Shenzhen)
14:45		**Coffee and tea break**
15:15	**(3.9)**	**Electric cars in company and carsharing fleets in German cities**
	►	Minnich, Lukas (Öko-Institut e.V.)
15:35	**(3.10)**	**Public charging infrastructure in Hamburg**
	►	Zisler, Stefan / Mr. Börger, Thomas (Stromnetz Hamburg GmbH, Innovation Management)
15:55	**(3.11)**	**Workshop 3b: Integration of charging infrastructure, e-Carsharing, and urban development on project level**
	►	Moderation: Prof. Dr.-Ing. Dickhaut, Wolfgang (HafenCity University Hamburg)
	►	Group discussion on different urban development approaches
	►	Evaluation of best practices to integrate charging infrastructure and sustainable mobility in existing and new urban development projects
17:00		**Excursion: Joint walk to Stromnetz Infotainer and Hydrogen Tank Stop**
17:20	**(5.1)**	**Visit of Stromnetz Infotainer and Hydrogen Tank Stop at HafenCity**
	►	Guided by Stromnetz Hamburg and Vattenfall Europe Innovation
		Address: San-Francisco-Straße 1 and Ericusspitze, 20457 Hamburg
19:00		**Free evening / dinners can be organized by individual groups**

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Part Two - Wednesday, 28th of September 2016 (Language: English; Chinese supported)

supported by:

Module 4a: Workshop Technology (Part 1)

09:00	**(4.1)**	**Built-in wireless cell sensors, optical cell sensors and decentralized signal processing for precise cell state estimation** ► Prof. Dr.-Ing. Riemschneider, Karl-Ragmar (Hamburg University of Applied Sciences)
09:30	**(4.2)**	**Modeling Li-ion batteries for state-of-charge, state-of-health and temperature indication** ► Dr. Danilov, Dimitri (Forschungszentrum Jülich / Eindhoven University of Technology)
10:00	**(4.3)**	**General requirements and challenges for battery management in EV** ► Prof. Dr. Putrus, Ghanim (Northumbria University, Newcastle)
10:30		**Coffee and tea break**
11:00	**(4.4)**	**Customised Lithium Cell Solutions** ► Thönnessen, Torge (Custom Cells Itzehoe GmbH)
11:30	**(4.5)**	**Workshop 4a: Group discussion on the integration of advanced battery models in battery management systems, hardware presentation** ► Moderation: Prof. Riemschneider, Karl-Ragmar (University of Applied Sciences Hamburg)
12:30		**Lunch break**

Module 4b: Workshop Technology (Part 2)

13:30	**(4.6)**	**Different generations of Lithium based batteries in the field of EV** ► Prof. Dr. Fröba, Michael (University Hamburg)
14:00	**(4.7)**	**The progress report on the research of power battery materials at PKUSZ** ► Dr. LIU Yidong (Peking University Shenzhen Graduate School, School of Advanced Materials, Researcher)
14:30	**(4.8)**	**Requirements of a cathode material used for fast-charging** ► Dr. Kraas, Sebastian (University Hamburg)
15:00		**Coffee and tea break**
15:30	**(4.9)**	**Workshop 4b: Group discussion on advanced battery materials** ► Moderation: Prof. Dr. Fröba, Michael (University Hamburg)
17:00		**Excursion: Joint walk to Stromnetz Infotainer and Hydrogen Tank Stop**
17:20	**(5.1)**	**Visit of Stromnetz Infotainer and Hydrogen Tank Stop at HafenCity** ► Guided by Stromnetz Hamburg and Vattenfall Europe Innovation Address: San-Francisco-Straße 1 and Ericusspitze, 20457 Hamburg
19:00		**Free evening / dinners can be organized by individual groups**

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Part Three - Thursday, 29th of September 2016 (Language: English; Chinese supported)

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Module 5: Excursion day from Hamburg to Wolfsburg

09:30	**(5.2)**	**Visit of E-Bus charging facilities at the Central Bus Station (ZOB)**
	▸	Guided by HOCHBAHN Hamburg (Bus Line 109)
10:00	**(5.3)**	**Long-distance Bus trip to VW Headquarters Wolfsburg**
	▸	Departure at ZOB Hamburg (Central Bus Station)
		Address: Kirchenallee, 20097 Hamburg (Central station north entrance)
13:00	**(5.4)**	**Visit e-Golf production line at VW-Headquarters in Wolfsburg**
	▸	13:00 lunch at VW canteen
	▸	13:30 Presentation about VW's business and future strategy
	▸	14:30-16:00 Visit e-Golf production line
16:15	**(5.5)**	**Long-distance Bus trip back to Hamburg**
	▸	Arrival in Hamburg around 7 pm

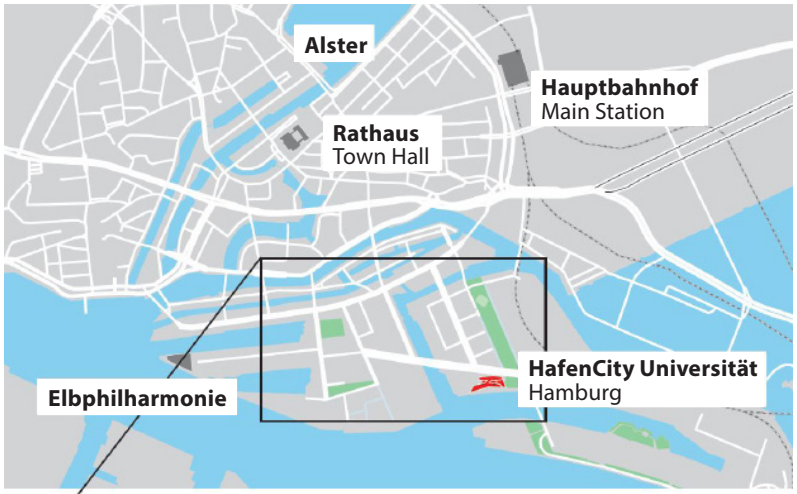
Excursion fee: SINGER-partners and guests from China are free, 30 persons max. External guests pay 50 EUR each (travel expenses).

Open program (optional)

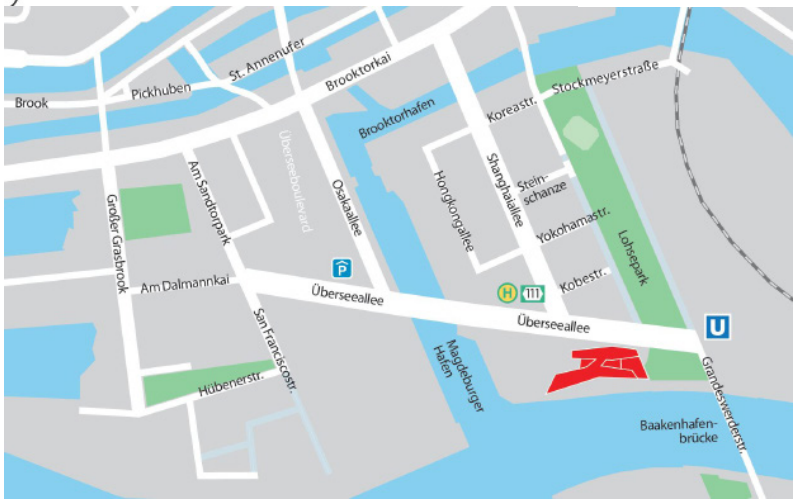
Friday, 30th of September:

- **Individual talks and contacts**

Venue: HafenCity University Hamburg



Map section



Address

HafenCity Universität
Hamburg
Überseeallee 16
20457 Hamburg

Approach

Long-distance train: Hamburg Hauptbahnhof, 25 min. walk
ÖPNV: U4, Station „HafenCity Universität" or BUS Line 111, Bus-stop „Shanghaiallee"
Parking: Parkhaus, Überseeallee 3